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THREE NEW RECORDS OF SOUTHERN HEMISPHERE BRYOPHYTA FOR SOUTH AFRICA

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Abstract

The Australian *Carrpos sphaerocarpos* (Carr) Prosk., (Marchantiales; Monocarpaceae) has been discovered in the Montagu division of the Cape Province; the family Moncarpaceae is validated. The mosses, *Pottia maritima* (R. Br. ter.) Broth., previously only known from New Zealand, and *Philonotis vagans* (Hook. f. & Wils.) Mitt., previously only known from southern Chile and South Georgia, are recorded for temperate South Africa.

Although a minority of the species of South African Bryophyta were known to have a distibution range extending to Australasia or temperate South America it was surprising to find three more in the first year of a collecting and research programme on the South African mosses. A fourth, a species of *Andreaea*, similar to the temperate South American *A. subenervis* Hook. f. & Wils. and to the New Zealand *A. nitida* Hook. f. & Wils., requires further comparative study.

The author wishes to thank Mr. J. H. Willis of the National Herbarium of Victoria, Australia, and Dr. H. Persson of the Riksmuseet, Stockholm, for providing material for comparison and for their taxonomic opinions.

Carrpos sphaerocarpos (D. J. Carr) J. Proskauer in Taxon 10: 155 (1961).

Monocarpus sphaerocarpus D. J. Carr in Austr. Journ. Bot. 4 (2): 176 (1956).

Cape Province, Montagu division, roadside 300 yards from Baths Hotel, in saline depression under *Suaeda fruticosa*. 6. x. 1968. *H. Tölken* 1586 (BOL, MEL).

This minute hepatic, with thalli less than 1·5 mm in diameter was previously only known from a few localities in the state of Victoria, Australia, where it also grows on saline soils. However, in Australian material seen, collected by Mr. Willis (MEL 28508), on saline mud amongst halophytic shrubs in north-western Victoria the plants are up to 4 mm in diameter.

The primary thallus is an undifferentiated cup-shaped structure with smooth-

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walled rhizoids produced at the base. This supports a shortly stalked, aerated, almost globose involucre within which the few archegonia, and eventually, the single sporophyte develops. The spores in the South African plants appear to be identical in ornamentation with those of the Australian plants. However, this species appears to be dioecious and the male gametophyte has yet to be found.

Unfortunately Carr (1956) did not validate his proposed family Monocarpaceae, only remarking that "It may be placed in Müller's system (1954, p. 195) as Suborder AA, Monocarpineae; Family 4A, Monocarpaceae: 'Monocarpus'." As this does not constitute valid publication of the name of the family a description is published here.

MONOCARPACEAE Carr ex Schelpe fam. nov.

Plantae annuae terrestres minutae. Planta feminea usque ad 4 mm. lata. Planta mascula ignota. Thallus primarius femineus cupulatus; involucrum breviter pedicellatum subcarnosum subglobosum cavernosum. Archegonia 2–3. Sporangium unicum subglobosum breviter caulescente.

Type genus: *Carrpos* (J. D. Carr) Proskauer in Taxon 10: 155 (1961) (*Monocarpos* D. J. Carr. in Austr. Journ. Bot. 4 (2): 176 (1956)).

On the available evidence, the present author is disinclined to follow Carr (1956) in placing this family in the Marchantiales but prefers to discover the male gametophyte before deciding on its proper taxonomic position, which appears to be intermediate between the Sphaerocarpales and the Marchantiales.

Pottia maritima (R. Brown ter.) Broth., Nat. Pflanzenf. 1 (3): 423 (1902).
Dendia maritima R. Brown ter. in Trans. New Zeal. Inst. 30: 411, t.41, fig. 3 (1898).

Cape Province, Montagu division, roadside 300 yards from Baths Hotel, in saline depression under *Suaeda fruticosa*. 6. x. 1968. *H. Tölken* 1586a (BOL, MEL).

This minute species of *Pottia* (subgen. *Schizophascum* (C. Muell.) Broth.) was previously regarded as endemic to New Zealand. The only other species of this subgenus known, is *P. disrumpens* (C. Muell.) Broth. from Victoria, Australia. As Sainsbury (1955) remarks, the capsule is unusual in that it is cleistocarpous and has a long beak, and opens by a break about the middle. The South African specimens were found intermingled with the plants of *Carrpos sphaerocarpos* mentioned above.

Philonotis vagans (Hook. f. & Wils.) Mitt. in Journ. Linn. Soc. Bot. 4: 80 (1859).
Bryum vagans Hook. f. & Wils. in London Journ. Bot. 30: 546 (1844).

Cape Province, Worcester division, Krom Rivier Kloof, off Du Toits Kloof; in deep wet gully on wet rock face. 4. iii. 1956. *Esterhuysen* 25391 (BOL, S-PB), *Esterhuysen* 25392 (BOL).

This robust, pale shining green moss was previously only known from cold temperate South America. According to Persson (priv. comm.) it is also known from South Georgia. The South African material is virtually identical with some stems of *Santesson* 442 (BOL ex S-PB) from Rio Rubens, Terr. Magellanes, Chile. This species, referred to *Philonotis* sect. *Pseudo-Mniobryum* Broth., is recognisable by the minutely serrated bordered margin of the leaf which is differentiated at the leaf base into an alar-like group of shorter and broader cells outside the downward continued border of narrow cells.

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